



# FACT SHEET



BMDO FACT SHEET 307-00-11

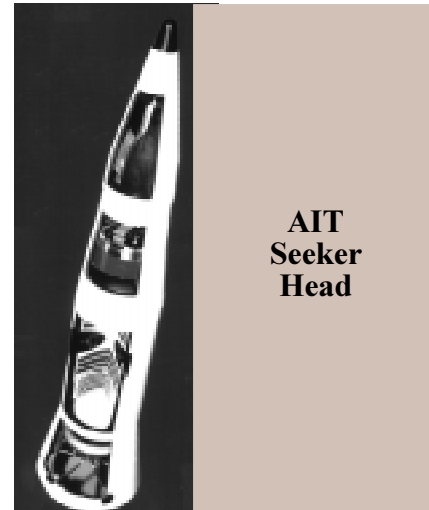
Replaces Fact Sheet 307-99-01

## ATMOSPHERIC INTERCEPTOR TECHNOLOGY

The Atmospheric Interceptor Technology (AIT) is the Ballistic Missile Defense Organization's (BMDO) primary technology base program for developing, integrating and demonstrating high performance lightweight interceptor technology for hypersonic flight within the atmosphere. The AIT program is managed by the U.S. Army Space and Strategic Defense Command (USASSDC) Missile Defense and Space Technology Center (MDSTC) in Huntsville, Alabama. Revolutionary technology upgrades will improve the performance capability and aim-point selection accuracy for hit-to-kill intercept of both tactical and strategic ballistic missiles. AIT provides common kill vehicle technologies for multi-service systems such as the Theater High Altitude Area Defense (THAAD) upgrades, the Medium Extended Air Defense System (MEADS), Boost Phase Intercept (BPI) and the Navy Theater-wide and Area-wide Defense.

Innovative technology and integration techniques are being developed by the Lockheed Martin Missile and Space (LMMS). Top level performance requirements and the goal of affordable, lightweight integrated vehicles have enabled the contractor to exercise innovative flexibility in meeting the robust AIT program objectives.

AIT is meeting the challenge of hypersonic flight conditions - severe aerodynamic, aerothermal and structured loads. Extensive component ground testing provides early resolution of critical issues and minimal risk as the program evolves to flight testing.

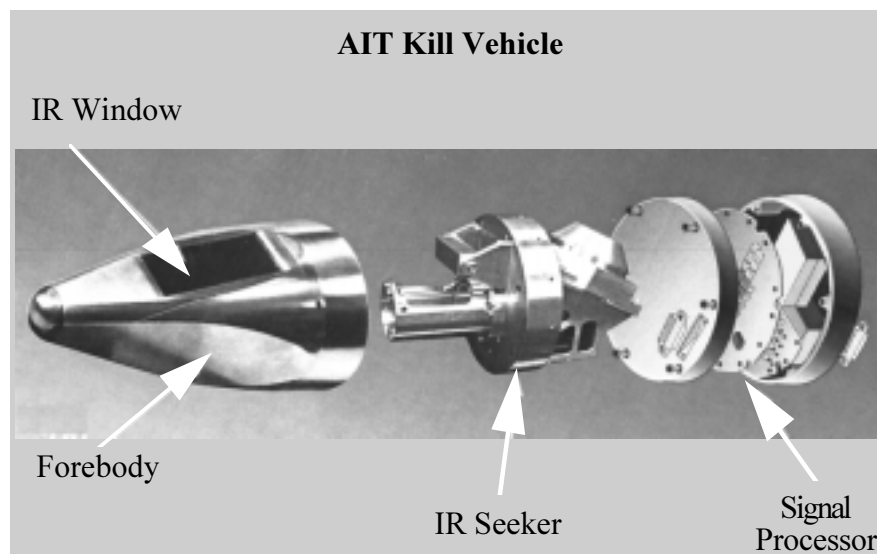


**AIT  
Seeker  
Head**

The AIT program is performing a rigorous series of ground tests in the Aero-Optical Evaluation Center (AOEC) and other government facilities to validate seeker and kill vehicle hardware. The AOEC in Buffalo, New York has the most powerful shock tunnel facility in the world. It is the only ground test facility that can duplicate the velocity, air density and temperature of actual hypersonic flight within the atmosphere. AOEC testing provides critical aero-optical and aerothermal data for low risk and low cost transition to flight tests.

Technical challenges include:

- Dynamic Environments
- Aero-optical & Aerothermal Performance of Forebodies & Seekers
- Line-of-Sight (LOS) Measurements
- Shroud Deployment
- Responsive Guidance & Control
- Aimpoint Selection



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